



K-12 Science Standards in Arkansas Frequently Asked Questions

Q: What are the Next Generation Science Standards (NGSS)?

A: Through a collaborative, state-led process managed by Achieve Inc., K–12 science standards have been developed that are rich in content and practice and designed to provide all students an internationally benchmarked science education. The NGSS are based on the *Framework for K–12 Science Education* developed by the National Research Council which is available as a free download (see resources below).

Q: Where can I find the Next Generation Science Standards?

A: The final NGSS was released in April 2013 and is available on the Web (see resources below).

Q: Who was involved in the development process?

A: The development of the NGSS has been a state-led process. In addition to the 26 lead states, the National Research Council (NRC), the National Science Teachers Association (NSTA), AAAS, and other critical partners were actively engaged in the development and review of the new standards. Writing and review teams consisted of K-12 teachers, state science and policy staff, higher education faculty, scientists, engineers, cognitive scientists, and business leaders. Achieve Inc., a non-profit education organization, managed the process on behalf of the lead states.

Q: Why NGSS?

A:

- NGSS are college and career ready standards.
- Science, engineering, and technology permeate nearly every facet of modern life and hold the key to meeting many of our most pressing current and future challenges. Engineering design and application and the use of technology are included in the Next Generation Science Standards at all grades levels.
- NGSS represents student groups who have been traditionally underserved in the science classroom and was designed for ALL students.

Q. What is the process for adopting curriculum standards in Arkansas?

A:

- The periodic review and revision of academic content standards is outlined in law in the state of Arkansas.
- A committee of K-12 teachers, instructional facilitators, and higher education content experts will review NGSS and make recommendations to the Arkansas Department of Education (ADE) on whether or not NGSS is best for Arkansas as its science content standards.
- ADE will review recommendations from the committee and decide the next steps, which could include taking the NGSS to the State Board of Education (SBE), who will make the final decision on adoption of science content standards in Arkansas.
- Following adoption, a strategic plan for implementation will be finalized.

Q: What science standards are required to be taught at least through next year?

A: Arkansas Science Curriculum Frameworks, which can be found on the ADE Website (see resources below).

Q: What science assessments will be administered at least through next year?

A: ADE will continue to administer the Science Benchmark at grades 5 & 7, the End-of-Course Biology Exam, and the Alternate Portfolio Assessments for grades 5, 7, and 10. Information about these assessments can be found on ADE's Website (see resources below).

Q: Why are new standards not being implemented immediately?

A: Successful implementation of science standards requires time and careful planning for major shifts in areas such as professional development, instructional materials, curriculum development, and new teacher preparation. Depending on the decision of the SBE, planning for the implementation of new science content standards will then begin.



K-12 Science Standards in Arkansas Frequently Asked Questions

Q: How will new standards be arranged into grade levels or courses?

A: This decision will be addressed as part of the strategic plan for implementation. The NGSS includes several appendices including one that outlines proposed model course pathways. This document can be found along with the NGSS standards. Achieve Inc. specifically stated “States and local education agencies...are encouraged to use them as a starting point for developing their own course descriptions and sequences.”

Q: What is the connection between NGSS and the Common Core State Standards (CCSS)?

A: NGSS identify what students need to know and be able to do in science. CCSS identify what students need to know and be able to do in math and English Language Arts. In addition, the CCSS provide literacy standards that complement, but do not replace, content standards in the other disciplines. Literacy skills are critical to building knowledge in science and math is considered the language of science. Therefore, all science teachers will need an understanding of the CCSS. The NGSS includes connections to pre-requisite and co-requisite CCSS in mathematics and English Language Arts and literacy. An effort has been made to ensure, in particular with mathematics, that the skills that will be needed in the science classroom have been taught in a previous year where possible. For more detailed information, see NGSS Appendices on the NGSS Website and the CCSS Website (see resources below).

Q: If NGSS are adopted in Arkansas, will NGSS testing be similar to the Partnership for Assessment Readiness for College and Careers (PARCC) assessments?

A: It is too early to determine the structure of future science assessments. Arkansas is a member of PARCC, a consortium of states, working to develop a common set of assessments which will assess math, English Language Arts and literacy in all content areas. Arkansas currently holds membership in several state-led organizations that are discussing the future of science assessment.

Q: What can educators do to prepare for the transition to new science standards?

- A:**
- Assess educator weaknesses/strengths in science content knowledge and develop a continuing education plan.
 - Participate in appropriate PD around the *Framework for K-12 Science Education*.
 - Evaluate and inventory the science resources currently available in your district/school.
 - Ensure that sufficient time is allotted in the school day for hands-on science instruction.
 - Begin to incorporate the practices and crosscutting concepts from the *Framework for K-12 Science Education*. Resources are available from the National Science Teachers Association (NSTA; see resources below).
 - Increase collaboration within your science department and across disciplines in your district/school.
 - Utilize the science specialists at your local educational cooperative and/or university STEM center for professional development offerings.

Q. What is the best method for staying up-to-date with Arkansas’ progress toward NGSS?

A: Information about NGSS will be sent out through ADE’s CCSS Listserv. Sign up to receive e-blasts by sending an email to Abby Cress at abby.cress@arkansas.gov. Information is also currently available at www.arkansasngss.pbworks.com and <http://www.arkansased.org/divisions/learning-services/curriculum-and-instruction/resource-materials-for-lesson-plans/science>.

Resources

ADE Student Assessment: <http://www.arkansased.org/divisions/learning-services/student-assessment>
Framework for K-12 Science Education: http://www.nap.edu/catalog.php?record_id=13165
Official site for NGSS: <http://www.nextgenscience.org/>
Achieve Inc.: <http://www.achieve.org/next-generation-science-standards>
National Science Teachers Association (NSTA): <http://www.nsta.org/about/standardsupdate/default.aspx>
ADE Science Frameworks: <http://tinyurl.com/cyqatr6>
CCSS: <http://corestandards.org>
Arkansas Ideas Professional Development CCSS portal: <http://ideas.aetn.org/commoncore>
List of cooperatives: <http://www.arkansased.org/contact-us/education-service-cooperatives>
List of STEM Centers: <http://www.arkansasstemcoalition.com/partners/arkansas-stem-centers/>